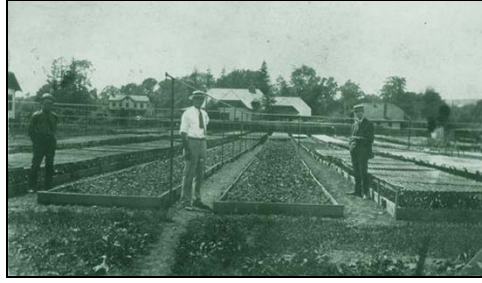


# PRINCETON NURSERIES KINGSTON SITE CULTURAL LANDSCAPE REPORT



## CHAPTER II: LANDSCAPE HISTORY

### A. PRINCETON NURSERIES LEADERSHIP

Over the course of the 20<sup>th</sup> century, Princeton Nurseries established itself as the largest wholesale supplier of shade and ornamental trees in the US.<sup>1</sup> From its late 19<sup>th</sup> century origins as F & F Nurseries, Princeton Nurseries has been a family run business focused on providing high quality nursery stock and exploring new methods of plant propagation. Throughout its history that spanned over 100 years, the Flemer family was the heart of Princeton Nurseries. Founded in 1882 by William Flemer Sr., it was Flemer's sons, William Flemer Jr. and Carl Flemer, and his grandsons, William Flemer III and John W. Flemer, who transformed F & F Nurseries into Princeton Nurseries, the leading commercial nursery operation in the country. William Flemer Jr., Carl Flemer, William Flemer III, and John W. Flemer were integral to the evolution and growth of Princeton Nurseries and the broader nursery industry through the 20<sup>th</sup> century.

#### A1. William Flemer Sr. (1861-1925)

William Flemer Sr. was born in New Jersey in 1861. At age 16, his father sent him to Morris Nurseries in Westchester, Pennsylvania to learn the nursery business. In Westchester, Flemer, Sr. studied under Theodore Foulk, known as one of the best nurserymen in the country, and developed excellent skills. After three years in Westchester, Flemer, Sr. trained in Rochester for a year and travelled in the west for 6 months. In 1882, Flemer Sr. and Foulk founded F & F Nurseries.<sup>2</sup>

#### A2. Carl Flemer (1889-1957)

Carl Flemer was the oldest son of William Flemer Sr. When Carl was 16, he traveled to Germany to study at the Roytling School of Horticulture. In 1920, Carl and his younger brother, William Flemer Jr., bought F & F Nurseries from their father. Together William Flemer Jr. and Carl operated the family business; while William oversaw operations at the Kingston Site, Carl managed the original nursery lands in Springfield, New Jersey. The brothers expanded and improved F & F Nurseries and both sites prospered. In 1930, the business had expanded so much that the brothers decided to split the business into two separate companies. Carl bought the Springfield operation, retaining it as F & F Nurseries. William bought the Kingston Site, which he continued to operate as Princeton Nurseries.

Although ultimately F & F Nurseries would not reach the recognition of the famed Princeton Nurseries, Carl continued to expand and improve F & F Nurseries, which was a successful family nursery for over 100 years. During his years at F & F Nurseries, Carl focused on propagation and

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introduced several ornamental trees that had previously not been grown in the US. Carl also made contributions to the broader nursery industry. To celebrate the 50-year anniversary of F & F Nurseries in 1932, he published a handbook of ornamental trees called *After Fifty Years*, which came to be used as a reference book within the industry. He was also a charter member of the New Jersey Association of Nurserymen, serving as the organization's first Vice President from 1915-1917, before becoming its second President in 1917.<sup>3</sup>

#### A3. William Flemer Jr. (1895-1985)

William Flemer Jr. was responsible for the early development and improvements at the Kingston Site of F & F Nurseries.<sup>4</sup> His father charged him with overseeing the operations at the expansive site when he was just 18 years old.<sup>5</sup> As part of his duties, William Jr. helped assemble a knowledgeable staff that could not only grow plants, but that could help organize the business and establish efficient methods of propagating high quality nursery stock.

In less than 10 years, William Flemer Jr. became the general manager of the Kingston Site, implementing ideas on physical and departmental organization he devised while serving on active duty with the Ambulance Corps in France during World War I. William Jr. devised and carried out plans for the layout of the production fields; organized nursery personnel according to specific departments to increase the efficiency of the business; designed and built new equipment meant to improve the production and harvesting process; and influenced the nursery buildings and support structures. He had a hand in the development of one of the most prominent building clusters within the nursery grounds: the propagation house and greenhouses. With help from other nursery workers, William Jr. constructed the initial eight greenhouses, which remain valuable features in the landscape today. He devised the color scheme for the Princeton Nurseries buildings and had the nursery buildings and worker houses painted yellow with white trim, creating visual continuity throughout the expansive grounds.

In addition to physically improving the Kingston Site landscape, William Flemer Jr. expanded the business with quality marketing techniques. In 1931, William Jr. published a full color Princeton Products guide. As an introduction, William Jr. described the "Princeton ideal," noting that "the policies which govern our business are different than those of most commercial nurseries serving the plant buying public." He further explained that the company mission of Princeton Nurseries was not merely to produce volume, but to employ "intelligent study to produce plants of finest quality and value in all the more desirable varieties" and that they "set out deliberately to make the name 'Princeton Products' synonymous with the highest grade nursery stock that modern equipment, skill, patience, and careful training could produce."<sup>6</sup> It was also in this publication that William Jr. began to use the slogan "Standard of Excellence," which he ultimately made synonymous with the Princeton Nurseries name.

While much of the innovative plant propagation that took place at Princeton Nurseries is credited to William Flemer III, William Flemer Jr. also had a hand in new plant introductions. The most well-known plant variety developed by William Jr. was the Princeton elm (*Ulmus americana* 'Princeton'), though details of how he developed the tree are unknown. However, by 1924, Princeton Nurseries had at least one block of healthy, young Princeton elm trees. Originally propagated for its superior form, the Princeton elm later proved to be resistant to Dutch elm disease.

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In addition to plant innovations, William Flemer Jr. was largely responsible for the continued success of Princeton Nurseries through the declining market of the Great Depression and World War II. When demand for nursery stock dropped, William Jr. used his expansive lands to raise other types of useful stock, including apple orchards, steer, and pigs.<sup>7</sup> He also created a watering system within the nursery grounds that was so efficient and extensive, he developed it into the Kingston Water Company, which provided water for the entire Village of Kingston.<sup>8</sup> During World War II, William Jr. encouraged other nurserymen to establish Victory Gardens to contribute to the war effort.<sup>9</sup>

During his years at the Kingston Site, William Flemer Jr. built a strong foundation from which his sons, William Flemer III and John W. Flemer, could continue to improve and expand Princeton Nurseries. The Kingston Site of Princeton Nurseries ultimately reached its height of success and development under the leadership of William III and John Flemer. However, the success and quality that came to be associated with Princeton Nurseries would not have been possible without the planning, implementation, and commitment to excellence laid out by William Flemer Jr.

#### A4. William Flemer III (1922-2007)

William Flemer III was the oldest of William Flemer Jr.'s sons. In 1950, William III became Vice President of Princeton Nurseries, and focused his work on plant production, propagation, and developing new cultivars. He had a strong background in botany, obtaining both bachelor and master degrees in botany from Yale University in 1946 and 1947, respectively.<sup>10</sup> While at Princeton Nurseries, Flemer III introduced dozens of plant cultivars, including shade, understory and ornamental trees, shrubs, and some vines and groundcovers.<sup>11</sup> A full listing of William's plant introduction can be found in Section D of this Chapter. The many plant cultivars developed by William Flemer III greatly contributed to establishing Princeton Nurseries as one of the highest quality nurseries in the country.

William served as Vice President of Princeton Nurseries from 1950 until 1972, when he became President. He remained in that position for 20 years, until he retired from the family business in 1992. In addition to providing strong leadership at Princeton Nurseries, William was also active in several nursery-related organizations. He served as president of several organizations:<sup>12</sup>

- New Jersey Association of Nurserymen, 1959
- Eastern Regional Nurserymen's Association, 1964
- National Association of Plant Patent Owners, 1965
- American Association of Nurserymen, 1969
- International Plant Propagators Society, 1972

Other organizations for which he served in a leadership position included:<sup>13</sup>

- US National Arboretum Advisory Board, Chairman, served in this position twice
- White House Grounds Committee of American Association of Nurserymen
- Arnold Arboretum of Harvard University, Board of Directors
- Royal Horticultural Society, Fellow

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In addition to industry organizations, William was also active in the local community, serving on several boards.<sup>14</sup>

- Stony Brook-Millstone Watershed Association, 1956-1966
- Trinity Church, Warden
- All Saints Episcopal Church, Warden

William contributed to the nursery industry through his new plant introductions, active involvement in organizations, and writings and publications. Over the years he published numerous articles in trade publications. He also wrote a number of books, including the 1965 *Shade and Ornamental Trees in Color* and the 1972 *Nature's Guide to Successful Gardening and Landscaping*.<sup>15</sup>

The important work of William Flemer III was directly recognized with several awards and honors. These included:<sup>16</sup>

- Hall of Fame Award, American Association of Nurserymen
- Veitch Memorial Award (Gold Medal), Royal Horticultural Society
- Medal of Honor, Garden Club of America
- Thomas Roland Medal, Massachusetts Horticultural Society
- Jackson Dawson Medal, Massachusetts Horticultural Society
- Distinguished Achievement Award, Pennsylvania Horticultural Society
- Arthur Hoyt Scott Garden Award, American Horticultural Society
- Catherine H. Sweeny Award, American Horticultural Society

#### A5. John W. Flemer (1930-1982)

John W. Flemer was the youngest of William Flemer Jr.'s three sons. Within a few years of William Flemer III becoming Vice President of Princeton Nurseries in 1950, John was hired to help his brother run the business. While William III had a strong background in horticulture, and thus focused on plant production and field operations, John's work focused on business administration. He studied veterinary medicine at Rutgers University before working for the family nursery and ran his own veterinary office in Princeton, which provided John with valuable business experience.

At Princeton Nurseries, John Flemer sought new methods of employing workers while avoiding unionization. He worked with the Glassboro Service Association (GSA). The GSA was an organization of New Jersey farmers that worked with the Puerto Rico Department of Labor to hire Puerto Rican workers. At Princeton Nurseries, contracting workers through the GSA was initially a way to avoid unionization. William Flemer III and John Flemer wanted to ensure they provided their workers with the same benefits offered by labor unions. This arrangement became instrumental in the way in which Princeton Nurseries and the Flemers connected and formed relationships with nursery workers. Administratively, John was able to use the GSA to obtain workers and reinforce a positive work force – one that would not seek to join a union.<sup>17</sup> In addition to working with the GSA to provide Princeton Nurseries with workers, John spent time researching employee unionization throughout the wholesale nursery industry. From his findings, he developed

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a 150+-page manuscript which he submitted to the Wholesale Nursery Growers of America, which published his work as a Labor Relations Guide in 1983, one year after his death.<sup>18</sup>

John W. Flemer dedicated much of his time to researching nursery industry practices and encouraging others to conduct research of their own. One area in which he was particularly interested was “improved methods for accounting and financial management.”<sup>19</sup> John was also active in the Horticultural Research Institute (HRI), serving as President at the time of his death. Under his leadership, the HRI published a series titled Operation Cost Study, which reflected the findings of his research work. At the time of his death, John was also serving as New Jersey governor of the American Association of Nurserymen and was also involved in their committees on pesticide, trade practices, and ethics. John ensured that his dedication to nursery industry research would continue on even after his death by creation the William Flemer Jr. Research Grant, administered by the HRI Endowment Fund.<sup>20</sup> John’s dedication to improving the business operations at Princeton Nurseries contributed to the success of the business and betterment of the nursery industry at large.

#### A6. Flemer Family Summary

During their nearly 50-year tenure at Princeton Nurseries, William Flemer III and John Flemer worked together to transform the expansive nursery grounds set out by their father. While William Flemer Jr. influenced the physical layout of the nursery grounds in Kingston, it was the plant innovations made by William III that allowed Princeton Nurseries to flourish into the country’s largest wholesale supplier. In 1931, William Jr. set the lofty goal of making Princeton Nurseries “synonymous with the highest grade nursery stock.”<sup>21</sup> William Jr. provided the framework from which William III could ultimately achieve his father’s vision. Together, William III and John Flemer improved the already impressive Princeton Nurseries operations, defining new levels of excellence and innovation in both horticulture and business administration of a large commercial nursery operation.

## B. PRINCETON NURSERIES ORIGINS

By the late 19<sup>th</sup> century, the commercial nursery industry had begun to transition from primarily large mail-order firms to wholesale nursery operations. Prior to the spread of wholesale nurseries, mail-order firms were the principal suppliers of ornamental trees, fruit trees, berries, and seeds. However, nurserymen began to establish small wholesale nurseries, usually encompassing about 10 acres of land. By 1898, 16 independent nurseries had been certified with the State of New Jersey. Among those was F & F Nurseries, which was the first certified nursery in the state.<sup>22</sup>

William Flemer Sr. founded F & F Nurseries in 1882 in Roselle, New Jersey.<sup>23</sup> Initially, William Sr. wanted to pursue farming, but his four brothers pursued more lucrative ventures of medicine and surveying and their father felt that farming would be difficult and not prove profitable. William Sr.’s father met a traveling salesman who suggested that the nursery business would be a more lucrative alternative. On this advice, 16-year-old William was sent to Westchester, Pennsylvania in 1877, where he apprenticed under Theodore Foulk, a German nurseryman and superintendent of Morris Nursery Company.<sup>24</sup> After five years of study in the nursery trade, William Sr. established his own nursery on a 35-acre farm in Roselle that his father purchased in exchange for a debt. Foulk



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contributed \$5,000 to the new enterprise and became Flemer's partner, prompting them to name the business F & F Nurseries.<sup>25</sup>

Within five years, F & F Nurseries was struggling financially. This prompted Foulk to sell his share of the business to Oliver Femly of Newark, New Jersey. Femly owned an agency business selling fruit trees, particularly peach trees, in Hunterdon County. With his inclusion as a partner in F & F Nurseries, he brought valuable business experience and his existing client base, which allowed the small nursery to flourish.<sup>26</sup> As the business improved, William Sr. and Femly found that the soils at the Roselle farm were very heavy and wet, making them not particularly well suited for growing nursery stock.<sup>27</sup> In response, they sought out better land and purchased a farm in nearby Kenilworth.<sup>28</sup> Specific details of the Kenilworth farm and its suitability for nursery operations remain unknown. However, in 1895 Flemer and Femly sold the farm to a redevelopment firm and relocated F & F Nurseries to a 125-acre farm in Springfield, New Jersey.<sup>29</sup> Most likely, they decided to relocate either because the land in Kenilworth was not suitable to grow nursery stock, or they were looking to expand their land holdings and did not have enough available land without moving the entire operation.

Details of the early operations in Springfield have not been well documented; however it appears that F & F Nurseries thrived. In 1900, William Flemer Sr. purchased Oliver Femly's share of the business and brought his brother Adolph Flemer in as his partner.<sup>30</sup> The business did well and by 1910, the FLEMERS looked to expand the nursery. However, Springfield was developing so rapidly that adequate land was not available to add to the existing nursery lands. William Sr. decided to look for a suitable location for new nursery lands outside of Springfield. He spent over two years visiting sites in Long Island, Pennsylvania, Maryland, and New Jersey before settling on land in Kingston, just outside Princeton, New Jersey.<sup>31</sup> The intent was to grow most of the nursery's trees and bare-root shrubs in Kingston while sales and distribution would be managed from Springfield.<sup>32</sup>

In 1913, William Flemer Sr. began the development of the Kingston Branch of F & F Nurseries, purchasing three contiguous farms. In September, William Sr. purchased Myrick Farm, the first of the three farms. The 65-acre farm was purchased for \$9,000 and included an existing house and barn.<sup>33</sup> William Sr. chose the site in Kingston for several reasons. The site had "good deep soil [that was] easy to work, and of the right character, on a main highway and on one of the best railroads in the East."<sup>34</sup> The soil, known as sassafras loam, was slightly acidic and did not have too much sand or clay, making it ideal for growing nursery stock. The climate of the area also supported propagation of a range of plant materials. Nearby transportation was also an important factor. The new site was a reasonable distance from Springfield; it took one day by horse and carriage to travel between the nursery lands. The proximity to the Delaware and Raritan Canal was desirable because Flemer could easily bring in coal and other supplies. The Rocky Hill Branch of the Pennsylvania Railroad provided valuable freight service.<sup>35</sup> Additionally, the site was "halfway between New York and Pennsylvania, in a growing community" with large quantities of good land available to expand the nursery lands as needed.<sup>36</sup>

Over the next few years, expansion of the nursery lands continued. In 1914, William Flemer Sr. purchased the 65-acre Higgins Farm, the second of three contiguous farms in Kingston, for \$14,000. The land included a farmhouse and wagon shed.<sup>37</sup> William Sr. purchased the third farm in 1915. William Sr. purchased the 80-acre Van Dyke farm from Emerson Pullen for \$12,000.<sup>38</sup> This farm

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included the stone Matthias Van Dyke House, constructed in 1742, located along the west side of Mapleton Road. (See Figure II.1.) Stone for the house, known simply as “Princeton stone”, was quarried from the western part of the Van Dyke property, where St. Joseph’s Seminary would later be constructed.<sup>39</sup> house would eventually be the home of William, Jr. and, later, William III as well as a gathering place for five generations of Flemers.<sup>40</sup> On average, William Sr. paid over \$165 per acre for these first three farm purchases, which was considerably expensive at the time.<sup>41</sup> Shortly after William Sr. purchased the three initial farms, he purchased a fourth farm known as the Archibald Gulick property. The 70-acre farm was bought for \$11,500.<sup>42</sup>

During this first historical period, William Flemer Sr. established the Kingston Site as part of the new F & F Nurseries. Open agricultural fields and small clusters of farmhouses and support buildings defined the initial Kingston Site landscape character. A few trees growing nearby existing buildings were left in place, adding to the rural character of the unimproved nursery lands. (See Figure II.2.) By the end of this period, the Kingston Site encompassed 280 acres of primarily open farm fields. As F & F Nurseries continued to thrive, William Sr. prepared to make improvements to the Kingston Site, making it a fully operational nursery with the help of his son, William Flemer Jr.

### C. PRINCETON NURSERIES KINGSTON SITE INITIAL PRODUCTION & EXPANSION, 1913 TO 1945

Once William Flemer Sr. acquired adequate land for the nursery operations, he sent his 18-year-old son, William Flemer Jr., to Kingston to manage the new branch. As William Jr. oversaw operations in Kingston, he also attended a short course at Rutgers University.<sup>43</sup> Initially, William Jr. split his time traveling between the Springfield and Kingston sites while organizing operations in Kingston with the help of his father.<sup>44</sup> One of the first tasks William Jr. addressed was building a staff at the Kingston Site. In January 1915, Flemer Jr. contacted John Watson, a nurseryman and colleague based in Newark, regarding the new site in Kingston. He invited Watson to help “build up a business there. The prospects there... are good. The soil is well drained and productive. The location is on the Penn. R.R. with the best of shipping conditions, and half way between two of the leading markets of the East. The business would be largely wholesaling to small dealers; jobbers; and nurserymen, with some retailing.” He further noted that he expected to “manage the growing end of the business in person and also take some active part in the office work.”<sup>45</sup> It appears that initially Watson did not accept the offer. William Jr. hired Frank Waterhouse in 1915 as superintendent at Kingston. Waterhouse oversaw the initial site improvements and daily nursery operations, reporting frequently to William Jr. Waterhouse had previously worked with Watson in Newark and was able to influence his decision to eventually accept Flemer’s offer and act as sales manager for the nursery.<sup>46</sup>

With his central staff in place, William Flemer Jr. focused on getting the Kingston nursery operations underway. Before the nursery stock could be planted, the farmlands needed improvements. Some of the land and soil was particularly stony; the Van Dyke property in particular had several large rocks that had been ice rafted up the canal. Smaller stones were found farther southwest before the soil transitioned to “very fine soil.”<sup>47</sup> The unexpected presence of stones in specific areas of the new nursery grounds made plowing the fields difficult. Once the stones were removed and plowing complete, Waterhouse and William Jr. planned to plant either shrubs or an orchard in that area.<sup>48</sup> In addition to the stones, other work was necessary before plowing could

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begin. The first two farms William Flemer Sr. purchased were mainly open although a number of large hedgerows grew in several fields.<sup>49</sup> In January 1915, work began to dig out the existing hedgerows and make the fields ready for planting the nursery stock.<sup>50</sup>

In addition to preparing the fields, William Flemer Jr. further improved the Kingston site with support structures and some plantings. Shortly after arriving in Kingston in 1914, William Jr. planted oak trees around the house purchased with the Higgins Farm.<sup>51</sup> A blacksmith shop was located near Mapleton Road at the north edge of the nursery lands.<sup>52</sup> Other facilities on site included a packing shed with cellar, “loading platform equipped with traveling chain hoist, an office and [its] own water supply.”<sup>53</sup> Details of these facilities are limited. Because the Flemers tended to retain existing buildings when they purchased land, it is unknown if these facilities were constructed or adapted from existing buildings. They also owned a house, referred to in historical documentation as the Shangle House, where the nursery horses were kept. The employee hired to care for the horses also used the Shangle House.<sup>54</sup>

As the site was improved, William Jr. began establishing nursery stock in the grounds. By 1915, plant materials growing at the Kingston Site included privet, silver maple, and peach trees.<sup>55</sup> In March of that year, the Kingston Site of F & F Nurseries received a shipment of seedlings from Mt. Arbor Nurseries, including 1,500 silver maple and 1,000 mulberries and additional grape plants from an unidentified source.<sup>56</sup> Flemer and Waterhouse planted the maple and mulberry trees as five-year stock in section K of the nursery grounds.<sup>57</sup> Flemer also instructed Waterhouse to plant an orchard as requested, but to “be shure [sic] and keep far enough away from the walnut tree.”<sup>58</sup> It is unknown if this orchard was the one Flemer and Waterhouse had previously discussed planting once the large stones had been removed from the nursery lands. William Jr.’s instructions to Waterhouse to retain an existing walnut tree indicate that in addition to establishing a thriving nursery operation, he was also interested in maintaining a sense of the preexisting landscape character.

As William Jr. and Waterhouse began planting nursery stock, they also discussed sales of nearby farms.<sup>59</sup> This indicates that they stayed informed on land acquisitions and were looking to expand the nursery grounds. By the time William Flemer Jr. went to France in 1917, four farms had been purchased.

By 1915, William Flemers Sr. and Jr. were looking to further improve the nursery operations by providing better facilities. In February a group of the nursery workers traveled to New Brunswick, New Jersey to receive a shipment of mahogany from the Butler Howell Company.<sup>60</sup> The intended use of the lumber remains unknown, however it is likely that it was used to adapt an existing building to better suit the needs of the nursery operations. Later that year, nursery workers began removing existing hedgerows from the fields.<sup>61</sup> In January of the following year, William Jr. visited the Kingston Site and awarded a contract to remodel and enlarge the existing horse barn.<sup>62</sup> (See Figure II.3.)

Over the following years, F & F Nurseries continued to expand their operations, hiring new employees and expanding their inventory. In January 1916, William Flemer Jr. and John Watson began looking to hire someone to “handle the field work, who is capable of handling men, and directing outside work generally.” Interestingly, Flemer noted that the new employee did not need to “know much about propagation” as they have a “good man in charge of that department.”<sup>63</sup> Later



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that year, F & F Nurseries sent marketing letters to prospective customers. The letter made several key points, including the company's commitment to quality and particular plants they kept stocked in large quantities, such as Norway maples, planetrees, lindens, and poplars. These trees were noted as being "an extra fine lot of QUALITY trees" ranging from 2-inch to 3½-inch caliper that are "regular straight stemmed, well furnished, and well rooted." They also carried a complete line of ornamental trees, shrubs, and evergreens at that time. Notable customers identified in the letter included the Newark Shadetree Commission, Essex County Park Commission, Department of Parks Manhattan, Department of Parks Baltimore, and the US Government, Washington DC.<sup>64</sup> The continued growth of personnel and the marketing efforts to gain new customers indicate that even during these early years F & F Nurseries thrived, establishing a successful nursery operation accessible to customers throughout the northeast.

In 1917, US involvement in World War I impacted the nursery industry both directly and indirectly through restrictions on transportation and sluggish residential development, respectively.<sup>65</sup> World War I affected F & F Nurseries more directly. In June 1917, William Flemer Jr. joined the Princeton University Ambulance Corps, SSU-523. The group trained in Allentown, New Jersey, where they were taught how to drive Model T Ford ambulances before traveling to Europe and arriving in France for active duty.<sup>66</sup> While in France, William Jr. planned the organization of the Kingston nursery lands, including physical layout as well as personnel organization. He decided to "departmentalize the operation in separate areas, such as the greenhouses, and the seed beds... each with a man in command and a subordinate to succeed him." William Jr. envisioned this as the most efficient way to run the nursery operations, and formulated plans to build labor-saving equipment. While World War I generally stalled the nursery industry, F & F Nurseries maintained their operations and planned for further improvements.<sup>67</sup>

As William Flemer Jr. devised plans for the improvement of the Kingston Site from afar, William Flemer Sr. continued to expand operations and facilities. Around 1918, while William Jr. was still in France, William Sr. had an office built in the style of a Bavarian hunting lodge at the Kingston Site.<sup>68</sup> The building was situated just north of the main entry drive into the nursery lands, and fronted on Mapleton Road with an open lawn interspersed with tree and shrub massings creating an inviting front yard for the nursery. At the south end of the building, a rustic stone porte-cochere extended over a gravel drive and small entry porch. Foundation plantings were established around the new building, illustrating to customers how the nursery stock could be used. (See Figures II.4, II.5, and II.6.)

Period photographs reveal the early character of the entry area and Mapleton Road. Large spruce trees lined the west side of Mapleton Road, and utility poles extended along the east side. Shortly after the office was constructed, a number of the trees fell, extending across the public roadway. The cause of the incident is unknown. (See Figures II.7 and II.8.) The character of the new office building and simple entry area complemented the character of Mapleton Road, allowing the nursery lands to contribute to the character and quality of the surrounding landscape.

Once William Flemer Jr. returned home from World War I, he became the general manager of the Kingston branch of F & F Nurseries and began to implement the ideas he developed while in France.<sup>69</sup> He constructed simple prototypes of new labor-saving equipment in his workshop. One of William Jr.'s designs utilized in the daily nursery operations was a tractor used to harvest trees.

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The tractor had a semi-circular blade beneath and a hydraulic lift, allowing the tractor to drive over the tree without damaging it. The blade would be lowered to cut the roots and form the rootball.<sup>70</sup> William Jr. began to plant poplar windbreaks to protect nursery stock from wind and other natural elements, an idea he adapted from the windbreaks he saw in France planted along the Rhone River.<sup>71</sup> William Jr. also organized the nursery and personnel according to specific departments as way to ensure the nursery operated as efficiently as possible.

Over the following years, William Sr. and William Jr. incrementally added to the nursery lands as adjacent properties became available. These included the Updike Farm, Messick Farm, and two unidentified farms, totaling just over 500 acres. These additions were all located west of Route 1. Three farms located east of Route 1 were also acquired: Silvers Farm, Grant Farm, and Mershon Farm. Some land was also purchased in Monmouth Junction along both sides of Ridge Road. The Flemers purchased these lands during the Great Depression and acquired them for between \$75 and \$100 per acre. William Sr. also rented at least two additional farms. These additions brought the Kingston nursery lands to a total of about 1,500 acres, making it the largest nursery operation in the country.<sup>72</sup> Given the amount of land acquired by Flemers Sr. and Jr., the Kingston Site quickly became an ideal location for a large nursery operation, and within two years of opening the Kingston Site, they decided to make it the wholesale headquarters for F & F Nurseries.<sup>73</sup> Nearby properties outside the commercial, agricultural holdings owned by the Flemers included St. Joseph's Seminary and the Rockefeller Institute of Medical Research.

By 1920, the Kingston Site of F & F Nurseries had expanded and established large quantities of high quality nursery stock. William Flemer Jr. and his older brother Carl Flemer purchased F & F Nurseries from their father, William Flemer Sr. Together, they ran the business with Carl concentrating efforts at the Springfield site and William Jr. retaining management of the Kingston Site.<sup>74</sup> Under their management, company holdings expanded with profitable growth.<sup>75</sup> William Jr. expanded the Kingston nursery grounds to about 1,500 acres by purchasing available farmlands adjoining the existing nursery grounds. Whenever possible, he bought existing houses along with the land and rented the houses to employees. Over the years, William Jr. also had new houses constructed until the nurseries' lands included about 45 houses. Eventually, William Jr. had all the houses and many of the nursery buildings at the Kingston site painted yellow with white trim, creating visual cohesiveness throughout the expansive grounds.<sup>76</sup>

Around 1920, after gaining partial ownership of the business, William Flemer Jr. continued to expand nursery operations in Kingston with improved facilities. Buildings constructed around 1920 or earlier included a small blacksmith shop adjacent to the office; a garage used to maintain the fleet of nursery vehicles; and a large shingled barn used to house the horses.<sup>77</sup> This original large horse barn burned down in 1927 and was later replaced with a new barn.<sup>78</sup> A large building was also constructed as a packing shed and storage building. Many of these buildings that supported the nursery were constructed near the northern edge of the nursery lands, creating a cluster of support facilities near the nursery entrance on Mapleton Road. (See Figure II.9.)

Combined with the farmhouses and buildings that William Jr. retained as he purchased land, the Kingston Site had expanded and improved the initial farmlands into an impressive and functioning nursery landscape by the early 1920s. Two farmhouses and associated outbuildings were used for housing management personnel, including William Flemer, Jr. and Superintendent Frank

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Waterhouse. William Jr. lived in the 1742 Matthias Van Dyke House west of Mapleton Road, and Waterhouse lived in what was known as the Shennard House, east of Mapleton Road and south of the horse barn. A third cluster of farm buildings was retained farther south and east of the Shennard House, along Seminary Drive. (See Figure II.10.)

Around 1920, the extensive greenhouse construction began at the Kingston site when William Flemer Jr. built the first greenhouse with the help of a nursery employee. William Jr. found the construction so simple, he erected a second greenhouse alongside the first. A few years later, he constructed two more before constructing another entire grouping of four greenhouses.<sup>79</sup> At the center of the two groupings of greenhouses was the propagation house, also known as the head house. Initially, the propagation house was a simple, wood-frame one-story building oriented roughly east-west with a brick chimney extending from the roof. The first eight greenhouses extended north-south from the propagation house. The cluster of buildings was constructed on a slight terrace with a rustic stone wall similar in character to the office porte-cochere retaining grade at the north. Simple compacted earth or gravel drives provided access to the greenhouses and propagation house. A potting shed was constructed east of the greenhouses, supporting plant propagation operations. (See Figure II.11.) As the nursery operations flourished and expanded, the propagation house and collection of greenhouses were improved. The propagation house was extended east and a partial second story was constructed.<sup>80</sup> (See Figure II.12.) The greenhouse collection grew over the years, eventually reaching about fifty.<sup>81</sup>

Following World War I, the broader US nursery industry experienced a prosperous boom period. This resulted from two primary factors: rapid development in suburban areas, and a quarantine placed on foreign nursery stock imports. As suburban development expanded, home owners looked to improve their yards and the demand for nursery stock increased. A 1919 quarantine further increased the demand for locally-grown stock and, in Europe, nurseries began to suffer. Many nurserymen moved to the US to either establish new or work for existing nurseries. A large number of European nurserymen moved to New Jersey because of its convenient location between New York, Philadelphia, Boston, and Washington DC. Existing transportation facilities and a climate that facilitated growth of a wide variety of plant materials also attracted these European growers. In the years leading up to World War I, typical nurseries encompassed about 10 acres of land each and focused efforts on supplying local demand. During the 1920s boom period, new nurseries were established and existing operations expanded.<sup>82</sup> F & F Nurseries was no exception.

F & F Nurseries prospered through the 1920s boom period. The family-run business established itself as a valuable supplier of ornamental and shade trees. The suburban growth spreading throughout New Jersey and Long Island, Orange County, and Westchester County in New York provided a profitable outlet for their supply. During this period, municipalities also began establishing local shade tree commissions and planting shade trees along public roadways, which influenced the success of F & F Nurseries. This included the New Jersey Federation of Shade Tree Commissions, which formed in 1926.<sup>83</sup> The formation of this group bolstered business for F & F Nurseries. Additionally, as nurseries were able to consistently raise their prices each year, the cost of farm labor stayed inexpensive, allowing F & F Nurseries to increase its profits.<sup>84</sup>

By the end of the 1920s, the Flemers had made considerable improvements to the expansive nursery lands, and a distinct operation core had been established near the nursery entrance at Mapleton

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Road. The office building and surrounding landscape both presented an inviting entry and displayed the types of plants available. The blacksmith shop was located directly north of the office, and the packing shed and a smaller building, which may have been used for storage, we positioned to the east. The Rocky Hill Branch of the Pennsylvania Railroad ran parallel to the packing shed, providing convenient transportation for shipping and receiving orders. The location of the railroad influenced improvements and layout of the nursery grounds. The operation core was located near the office and main entrance from Mapleton Road because of its proximity to the existing railroad.

Plant stock was also grown within the operation core. Rows of plants, possibly evergreen trees or shrubs, were planted in rows, separating the office and blacksmith shop from the packing and storage sheds. A wide walkway divided the planting area in half and provided access between the administrative office and the packing and storage facilities. At the center of the evergreen plantings, the walk circled around what may have been a small massing of shrubs. An east-west row of evergreen trees defined the northern edge of the space. Although this planting area appears to have been used for growing stock, the character of the area is more formal and garden-like than the other stock fields, indicating that William Jr. may have used this as a display area to show potential customers. (See Figure II.13.)

The expansive Princeton Nurseries lands extended to the south with rows of plant stock, support structures, and landscape features. A series of wooden lath structures, used to protect plants from the sun and other natural elements, extended east-west between the office and greenhouses. The structures varied in height, depending on the plant materials that grew beneath them. Elevated piping provided water to the plant stock. (See Figures II.14 and II.15.) To the south, plant stock was laid out in rigid east-west rows on both sides of Mapleton Road and north of Seminary Drive. Small clusters of farmhouses and outbuildings were nestled among the plant stock. A wooded area surrounding a small creek grew to the east of the operations building cluster, separating the nursery core from a number of houses eventually used for workers. (See Figure II.16.) Within the first two decades of establishing nursery lands in Kingston, the Flemers transformed the open farmlands into a thriving commercial nursery business.

Support buildings and structures were scattered throughout the expansive nursery grounds. Historical photographs reveal that little separation was made between the plant stock and the buildings. Instead, impressive rows of plants extended in near straight lines throughout the landscape with only brief interruptions by various buildings and structures. A small periphery of open space surrounded some buildings to provide for supply and vehicle access, as needed. (See Figures II.17, II.18, II.19, and II.20.)

By the 1920s, circulation routes through the nursery grounds had been defined. Wide, straight drives divided the production fields and provided access to care for the plant stock. Historical documentation indicates that this early network of access routes was likely surfaced with compacted dirt; roads near the entrance and office building appear to have been surfaced in fine gravel. (See Figures II.6 and II.13.) Smaller access routes were laid out within the interior of plant blocks. These narrower paths provided enough space for equipment, horses, and workers to conveniently move between the planting areas. Period images reveal that these paths were primarily compacted dirt with some mixed turf or other low-growing meadow grass evident in patches through the center.

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(See Figures II.21 and II.22.) Together the rows of plant stock and straight access routes defined a pattern of linearity throughout the nursery landscape.

Additional landscape features were also laid out during these early years. Small, prominent wooden stakes identified the types of plants being grown in a particular block. (See Figure II.23.) Other landscape features included an early irrigation system, in which simple, narrow pipes were elevated off the ground plane. Simple support pipes extending perpendicularly from the plant beds, raising the watering system approximately five to six feet above the plant stock. This irrigation system was used in the seed bed area, and it is unknown how extensively it was used in other nursery production areas. (See Figure II.24.) These simple landscape features at the Kingston Site aided in nursery operations and contributed to the landscape character.

Little is known about the specific plant materials and organization of stock fields during this early period, though period photographs reveal details of production. A number of images document plant species grown in the nursery grounds, but the location of particular planting fields remains unknown. The use of horses to help cultivate the production fields has also been documented. (See Figure II.25.) A late 1920s photograph reveals that some plant materials were grown in areas of the nursery that closely matched the natural conditions in which the plant would normally grow. Rhododendron shrubs were grown under the shade of a native oak woodland. (See Figure II.26.) Period photographs also indicate that by 1924, F & F Nurseries had established a healthy stock of young Princeton elm trees. (See Figure II.27.) The Princeton elm, which later proved to be resistant to Dutch elm disease, is one of the best known plant varieties developed at Princeton Nurseries. However, Congress did not pass the US Plant Patent Law until 1930 and, ironically, the Princeton elm was never patented.<sup>85</sup>

F & F Nurseries continued to prosper and, in 1930, William Flemer Jr. and Carl Flemer decided to divide the family business into two distinct enterprises: Carl took ownership of the operation in Springfield, retaining the name F&F Nurseries, and William Jr. took ownership of the Kingston lands, using the name Princeton Nurseries.<sup>86</sup> At the time of the division, the Kingston Site encompassed about 1,500 acres with 1,000 in active production.<sup>87</sup> Soon after establishing Princeton Nurseries, William Jr. began marketing the business as a supplier of high quality stock. In 1931, Princeton Nurseries published the full-color Princeton Products guide. In the guide, William Jr. described the commitment to supply the highest quality plant stock and to continue studying and propagating new varieties.<sup>88</sup> The remainder of the guide described the quality of stock and range of available varieties. William Jr. invited readers to visit the nursery grounds and experience the “Princeton Ideal” firsthand. An annotated aerial image of the nursery grounds combined with photographs helped familiarize potential customers with the grounds and quality of products and service.<sup>89</sup> (See Figure II.28.) Overall, the catalog illustrated Princeton Nurseries’ commitment to both innovation and excellence in plant production and propagation. It is also in this publication that the Princeton Nurseries began marketing with their slogan “Standard of Excellence,” which can be seen stamped on nearly all of the images printed in the guide. (See Figures II.25, II.26 and II.28.)

Although the 1920s were a boom period for US nurseries, the 1930s became a period of economic depression and reevaluation. Sales and available jobs plummeted and land values in rural areas dropped to 1/3 or 1/4 their value in 1928 or 1929. This was particularly a problem for nurseries



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that expanded their acreage during the 1920s boom.<sup>90</sup> William Flemer Jr. was able to keep the expansive Princeton Nurseries grounds intact during the Great Depression. Although business was slow and William Jr. had acquired debt, the bank did not foreclose because he held so much land and continued to pay on the interest as best as he could. In spite of the declining market, Princeton Nurseries explored several alternative options and managed to sustain themselves through the depression. Because of the limited market for nursery stock, William Jr. planted apple orchards and raised some steer and pigs on the nursery lands.<sup>91</sup> (See Figures II.29 and II.30.)

Nurserymen remained optimistic for the future of the business despite business and market conditions. In response to the depressed and declining market, the nursery industry developed trade policies to help ease the burden. These included reduced production, expenses for equipment, wages, etc. As they curtailed production, nurseries worked to keep their existing stock in as good as shape as possible and sought every available sales outlet, despite the drastically reduced prices.<sup>92</sup>

Overall, the adversities of the 1930s prompted the growth of new ideas and ways to revitalize the industry. One such avenue explored was the idea of cooperative advertising. This ranged from newspaper advertising to more elaborate efforts, like staging sample landscape projects at events such as flower shows. The idea of developing an outdoor living room was also promoted.<sup>93</sup> In 1930, Princeton Nurseries collaborated with the National Home Planting Bureau and American Association of Nurserymen and published a 'How to Make an Outdoor Living Room' booklet. The book encouraged homeowners to transform their backyards into lush outdoor living rooms and used images and simple plan drawings to illustrate how to create such a space.<sup>94</sup> (See Figure II.31.)

In the early 1930s, pump priming helped to sustain the nursery industry. Works Progress Administration (WPA) projects addressed parks, streets, and highways, all of which utilized a considerable amount of plant materials. The New Jersey State Highway Department also began planting roadways and interchanges as the start of a broader policy to plant all major highways and parkways.<sup>95</sup> Perhaps as part of the broader movement to plant roadways, William Flemer Jr. adapted French style roadway plantings when he planted rows of sycamores along Mapleton Road in 1932. While in France during the war, William Jr. came to appreciate the character provided by the large trees, which provided shade for foot soldiers and cover from aerial attack for vehicles, such as ambulances.<sup>96</sup> While the purpose of the planting in France was in large part to provide enclosure and boundary definition, William Jr. recognized the scenic character of the plantings and used it to enhance the setting of Princeton Nurseries.

The installation of water systems demonstrates another innovative solution to industry woes William Flemer Jr. implemented in the 1930s. In 1932, he purchased an existing pipeline that had been used by the Sun Oil Company and constructed a pond (Wyncoop Pond) on Princeton Nurseries property in Franklin Township (north of the core area) as a reservoir. An undated photograph taken by the J. Horace McFarland Company illustrates this the water feature in the late 1940s.<sup>97</sup> (See Figure II.32.) Water was supplied from Lake Carnegie to a small pond through a culvert, under the D. & R. Canal, and then pumped through a pipe; the flow was then reversed to allow the water to return, by gravity, and be distributed to the fields for irrigation. In 1932, for drinking water, and additional irrigation, he constructed a large water tower on the nursery lands with a well near the office building. The tower was 125 feet tall and held 75,000 gallons with cast-iron mains. (See Figure II.33.) Flemer received a considerable discount on his fire insurance for installing the system. His

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potable water system was so efficient and provided so much water that William Jr. developed the Kingston Water Company, which provided water not only to the nursery lands but to the Village of Kingston.<sup>98</sup> William Jr.'s development of the nursery water system benefited Princeton Nurseries in several ways: it efficiently provided water for the nursery stock, decreased the cost of fire insurance, and it provided William Jr. with an opportunity to provide water for the surrounding village.

During the weakened market of the 1930s, nursery professionals sought new outlets to sustain the industry. At Princeton Nurseries, William Flemer Jr. formulated innovations to keep the business operating. These included planting of orchards to provide fresh fruit; raising livestock; exploration of new marketing tools; implementing street tree plantings; and development of the Kingston Water Company. Implementation of these projects allowed Princeton Nurseries to continue as one of the more successful nursery operations through the Depression. Because of the innovative practices and continued commitment to providing excellent quality stock, Princeton Nurseries was able to sustain itself until the late 1930s, when market conditions began to improve.

By the late 1930s, market conditions within the commercial nursery industry began to improve. Construction and expansion of housing developments began to pick up. Much of the plantings used for the new housing as well as for a number of the highway and parkway projects were awarded under landscape contracts. All plants were subject to rigid inspections and only the highest rated plants were accepted. This was beneficial to nurseries as they could charge higher prices for the higher quality.<sup>99</sup> New production was more selective and cautious than it had been previously. The new nursery material reflected a growing demand for better quality materials as well as for lower growing plants for home foundation plantings. As demand continued to grow, retail plant markets began to open, some of which opened as part of existing nurseries as a way to increase sales. The new retail markets became popular with the public. It also meant that plants could be grown and sold in one location from one business. This created demand for nurseries to provide greater variety, including perennials, bedding plants, in-season vegetables, and garden tools.<sup>100</sup> However, the improved market of the late 1930s did not last long; US involvement in World War II resulted in another period of decline for the nursery industry.<sup>101</sup>

Princeton Nurseries was impacted by the depressed market during World War II. Nursery operations focused on producing mainly fruits and vegetables.<sup>102</sup> Princeton Nurseries grew vegetable crops during World War II as demand for nursery stock dropped. Planted crops included 24 acres of tomatoes planted in blocks 99, 100, 109 and 119; approximately 20 acres of string beans; and 35 acres of lima beans.<sup>103</sup> The company used German prisoners-of-war for labor, which allowed them to decrease some expenses.<sup>104</sup> Princeton Nurseries also encouraged other nursery operations to create Victory Gardens. On the inside cover of their 1944 wholesale price list, William Flemer Jr. printed a "Special War Announcement to the Trade." In the announcement, he stated that the federal government requested that those in the agricultural business produce as much food crops as possible to "alleviate a critical shortage facing our war programs." He further noted that Princeton Nurseries planned to use all available land for food production and he urged all other nurserymen to do the same. Flemer went on to explain that several years ago, "before this country had been drawn into the present struggle," Princeton Nurseries had increased plant production. This meant that although it would dedicate available land to growing crops to aid in the war effort, it was also maintaining a considerable amount of nursery stock, notably ornamental trees, for sale.<sup>105</sup> Because Princeton Nurseries lands comprised considerable acreage, Flemer was able to maintain nursery stock

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in addition to growing crops. The fact that he had the land and managed to keep much of his nursery stock meant that once market conditions improved, he would not lose time establishing a healthy nursery stock.

Between 1913 and 1945, the Flemer family laid the foundation for what would become the largest commercial nursery operation in the country. With the help of his father, William Flemer Jr. expanded the nursery grounds from the initial farm purchases to 1,500 acres with about 1,000 acres in active production. William Jr. improved the grounds to support the nursery operations. This included retaining and adapting existing farm buildings, constructing new buildings and structures, and laying out the nursery stock fields. In general, the layout of the nursery grounds was dictated by functionality. A cluster of support buildings, including the office, blacksmith shop, packing shed, and greenhouses, were all sited near the nursery entrance and existing rail line. Circulation routes were laid out between plantings to provide access throughout the grounds. Small-scale features supported the high quality plant production. Together the rows of plant stock and straight drive alignments defined a linear character throughout the nursery landscape.

It was also during this period that the family-run nursery split into two distinct entities, leaving Carl Flemer with ownership of F & F Nurseries in Springfield and William Jr. with ownership of the Kingston Site, using the name Princeton Nurseries. William Jr. organized both the physical layout of the nursery grounds and the personnel and various departments. His creative solutions to market woes allowed Princeton Nurseries to stay in business during times of economic depression. He did this by exploring innovative ways to use the nursery lands and to promote the growing business. Through his work, he set an important precedent for providing the highest quality nursery stock and defining new innovations in nursery operations and production. It was from this strong foundation that William Flemer III and John Flemer were later able to transform the successful nursery operation into one of the most renowned large commercial nursery operations in the country.

#### D. PRINCETON NURSERIES INNOVATIONS & EXCELLENCE, 1945 TO 1980s

While the overall commercial nursery industry experienced a period of decline through World War II, Princeton Nurseries managed to weather the depressed market. Although William Flemer Jr. dedicated some of the fields to crop production, Princeton Nurseries was able to maintain a healthy stock of nursery plants. This meant that once market conditions began to improve, Princeton Nurseries was in a favorable condition to start profiting from their nursery stock. In 1950, 28-year-old William Flemer III was named Vice President of Princeton Nurseries. In this position, William III focused on directing production and daily operations of the nursery grounds.<sup>106</sup> Within a few years, William III was joined in the business by his younger brother John W. Flemer. William III oversaw plant production and development, and John Flemer administered the business. Together the brothers oversaw all operations at the Kingston Site, focusing on furthering the high quality standards for which Princeton Nurseries had come to be known. It was during this period that the Flemer brothers strove to establish Princeton Nurseries as the premier nursery operation in the country.

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An important factor in producing high standard nursery stock and developing new plant varieties was the quality and treatment of the nursery workers. William Flemer III and John Flemer wanted to create a positive work environment at Princeton Nurseries. In the 1940s, Princeton Nurseries hired contracted Puerto Rican laborers through the Glassboro Service Association (GSA). Under this program, laborers worked and lived in New Jersey from May through December of each year. According to the contract, devised to protect the workers, employers agreed to pay a minimum wage, a minimum of 60 hours of work per month, provide at least one hot meal a day, and adequate housing. In addition, employers were also required to pay for the workers' airfare and medical insurance.<sup>107</sup>

Although the GSA was a business arrangement, the program helped shape the culture and character of Princeton Nurseries. At Kingston, contracting workers through the GSA was initially a way to deal with seasonal labor demands. Ultimately, it helped the Flemers appreciate the Puerto Rican workers, with whom they forged lasting relationships. The Flemers developed a strong appreciation for Puerto Rican culture; they traveled to Puerto Rico on vacations; John Flemer bought a house on Vieques (PR); he also learned to speak Spanish fluently. To house the workers, Princeton Nurseries constructed a dormitory with an outdoor pool on the nursery lands, southwest of the main office.<sup>108</sup> William III and John Flemer took the Princeton Nurseries slogan, "Standard of Excellence," and applied it to all aspects of the nursery operations, including "product quality, customer service, respect for the land and human relations, both within [the] Nursery family and with [their] neighbors."<sup>109</sup> The strong relationship that developed between the Flemer family and the workers created an esprit de corps. This unparalleled treatment of the workers fostered a reciprocal commitment to the family and Princeton Nurseries that resulted in high quality work and products. It also avoided the threat of unionization that began to be a concern by many in the agricultural business especially beginning in the 1960's.

As John W. Flemer looked for innovative solutions to the business operations, William III implemented new practices in the fields such as planting stock in rows to respect the contours of the land; even more important, he spent much of this period developing new plant cultivars, focusing primarily on shade trees. In September 1956, William III patented a variety of honeylocust known as honeylocust brownii (*Gleditsia triacanthos* var. *inermis* 'Brownii'), patent number 1514. The cultivar was slow-growing with exceptionally straight trunk and branches. In spite of the patent, the tree was never offered for sale by any nursery. Reasons for this have not been identified. At the same time, Flemer also patented the honeylocust shademaster (*Gleditsia triacanthos* var. *inermis* 'Shademaster'), US plant patent number 1515. This thornless honeylocust cultivar was desirable for shade tree plantings as it grew with a straight, strong trunk with ascending branches forming a symmetrical crown.<sup>110</sup> It was more successful than the brownii variety and was among the new plant varieties that Princeton Nurseries worked to promote. (See Figure II.34.)

Other plant cultivars developed and patented by William Flemer III during this period include:<sup>111</sup>

- Summershade Norway Maple (*Acer platanoides* 'Summershade'), September 1958, US Plant Patent 1748
- Continental Honeylocust (*Gleditsia triacanthos* var. *inermis* 'Continental'), September 1958, US Plant Patent 1752

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- Rubylace Honeylocust (*Gleditsia triacanthos* var. *inermis* ‘Rubylace’), March 1961, US Plant Patent 2038
- Greenspire Linden (*Tilia cordata* ‘Greenspire’), September 1961, US Plant Patents 2086, 2087
- October Glory Red Maple (*Acer rubrum* ‘October Glory’), December 1961, US Plant Patent 2116
- Village Green Zelkova (*Zelkova serrata* ‘Village Green’), January 1964, US Plant Patent 2337
- Regent Pagoda (*Saphora japonica* ‘Regent’), January 1964, US Plant Patent 2338
- Green Mountain Sugar Maple (*Acer saccharum* ‘Green Mountain’), January 1964, US Plant Patent 2339

In total, William Flemer III introduced at least 62 new plant cultivars during his tenure at Princeton Nurseries. Detailed information regarding the exact year of introduction and plant patent numbers has not been revealed during the research for this project. However, the names of the new cultivars have been documented and marketed by Princeton Nurseries as special innovations of William Flemer III. In addition to shade trees, these new cultivars also included understory and ornamental trees, shrubs and some vines and groundcovers.

Shade tree introductions included:<sup>112</sup>

- Crimson Prince Maple (*Acer palmatum* ‘Crimson Prince’)
- Princeton Gold Norway maple (*Acer platanoides* ‘Princeton Gold’)
- Bonfire Sugar Maple (*Acer saccharum* ‘Bonfire’)
- Magnifica Hackberry (*Celtis x occidentalis* ‘Magnifica’)
- Sweetshade Yellowwood (*Cladrastis kentukea* ‘Sweetshade’)
- Greenspire American Ash (*Fraxinus americana* ‘Greenspire’)
- Magyar Upright Ginkgo (*Ginkgo biloba* ‘Magyar’)
- Princeton Gold Ginkgo (*Ginkgo biloba* ‘Princeton Gold’)
- Princeton Sentry Ginkgo (*Ginkgo biloba* ‘Princeton Sentry’)
- Shademaster Amur Corktree (*Phellodendron amurense* ‘Shademaster’)
- Crownright Pin Oak (*Quercus palustris* ‘Crownright’)
- Green Pillar Pin Oak (*Quercus palustris* ‘Pringreen’)
- Purple Crown Robinia (*Robinia* hybrid ‘Purple Crown’)
- Princeton Upright Pagoda Tree (*Sophora japonica* ‘Princeton Upright’)
- Green Mountain Silver Linden (*Tilia tomentosa* ‘Green Mountain’)
- Dedfree American Elm (*Ulmus americana* ‘Dedfree’)
- Nassau American Elm (*Ulmus americana* ‘Nassau’)
- Green Vase Zelkova (*Zelkova serrata* ‘Green Vase’)

Understory and ornamental tree introductions included:<sup>113</sup>

- Cumulus Shadblow (*Amelanchier x grandiflora* ‘Cumulus’)
- Snowcloud Shadblow (*Amelanchier laevis* ‘Snowcloud’)
- White Pillar Shadblow (*Amelanchier canadensis* ‘White Pillar’)
- Summer Stars Kousa Dogwood (*Cornus kousa* ‘Summer Stars’)



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- Crimson Cloud Hawthorn (*Crataegus oxyacantha* ‘Superba’)
- Princeton Sentry Washington Hawthorn (*Crataegus phaenopyrum* ‘Princeton Sentry’)
- Starburst Amur Maackia (*Maackia amurensis* ‘Starburst’)
- American Beauty Crabapple (*Malus* ‘American Beauty’)
- Walters Siberian Crabapple (*Malus baccata* ‘Walters’)
- Bridal Bouquet Crabapple (*Malus* ‘Bridal Bouquet’)
- Crimson Sunset Crabapple (*Malus* ‘Crimson Sunset’)
- Cardinal Crabapple (*Malus hupehensis* ‘Cardinal’)
- Strawberry Parfait Flowering Crabapple (*Malus hupehensis* ‘Strawberry Parfait’)
- Pink Perfection Crabapple (*Malus* ‘Pink Perfection’)
- Snowcloud Crabapple (*Malus* ‘Snowcloud’)
- Princeton Snowcloud Sargent Cherry (*Prunus sargentii* ‘Princeton Snowcloud’)
- Rosy Cloud Cherry (*Prunus subhirtella* ‘Rosy Cloud’)
- Afterglow Cherry (*Prunus x yedoensis* ‘Afterglow’)
- Redspire Pear (*Pyrus calleryana* ‘Redspire’)
- Redbird Korean Mountainash (*Sorbus alnifolia* ‘Redbird’)
- Regent Tree Lilac (*Syringa reticulata* ‘Regent’)

Evergreen tree introductions included:<sup>114</sup>

- Princeton Gold Holly (*Ilex opaca* ‘Princeton Gold’)
- Princeton Sentry Columnar Red Cedar (*Juniperus virginiana* ‘Princeton Sentry’)

Shrub introductions included:<sup>115</sup>

- September Beauty Summersweet (*Clethra alnifolia* ‘September Beauty’)
- October Glory Burning Bush (*Euonymus alatus* ‘October Glory’)
- Princeton Gold Forsythia (*Forsythia x intermedia* ‘Princeton Gold’)
- February Gold Witchhazel (*Hamamelis molis* ‘February Gold’)
- November Glow Witchhazel (*Hamamelis virginiana* ‘November Glow’)
- Snow Queen Oakleaf Hydrangea (*Hydrangea quercifolia* ‘Snow Queen’)
- October Glory Arrowwood Viburnum (*Viburnum dentatum* ‘October Glory’)
- Pink Snowball Viburnum (*Viburnum plicatum* ‘Pink Snowball’)

Vine and groundcover introductions included:<sup>116</sup>

- Crimson Trumpet Trumpet Vine (*Campsis radicans* ‘Crimson Trumpet’)
- Shademaster Periwinkle (*Vinca minor* ‘Shademaster’)

During the post-World War II period, improvements were made to the nursery support facilities and features. An undated J. Horace McFarland Company photograph documents a temporary plant storage area, likely located near the packing and storage buildings. Here, balled and burlapped trees and shrubs were set on wooden pallets, awaiting shipment. (See Figure II.35.)

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In 1950, a steel and masonry extension was constructed on the packing shed. Decayed wooden poles were also removed and replaced with steel. A lumber storage building was also constructed that same year. (See Figures II.36, II.37, and II.38.) The lumber storage building was likely constructed near the cluster of greenhouses and other support buildings. In 1961, a large lath building was constructed north of the greenhouses and east of the packing and shipping buildings.<sup>117</sup> This simple, open-air structures provided shade and protection from the weather for plants being prepared for shipment. (See Figures II.39 and II.40.)

By the 1960s, Princeton Nurseries had grown into one of the most successful nursery operations in the country. Its success resulted from the innovations made by both William Flemer III in plant propagation and new cultivar introductions and by John Flemer in business administration. By 1962, the business was thriving and the Flemers were looking to once again expand their operations.<sup>118</sup> A growing demand for quality specimen shade, ornamental, and evergreen trees prompted William III and John Flemer to find new lands with which to expand the business.<sup>119</sup> It was also at this time that William Flemer Jr. was ready to gradually move into retirement. He and William Flemer III sold Princeton Nurseries lands located east of Route 1 to the Phelps Estate, which would later sell the property to Princeton University to expand its Forrestal Campus. The money gained from the sale allowed the company to pay off debts, provide William Jr. with retirement money, and purchase new lands in Allentown, New Jersey.<sup>120</sup>

As Princeton Nurseries expanded with land purchases in Allentown, improvements continued to be made at the Kingston Site. In the early 1960s, William Flemer Jr. hired Princeton architect Rolf W. Bauhan to renovate the original office building. Bauhan was an acquaintance of William Jr.'s and William Jr. had hired him several times over the years to make improvements to the nursery buildings and worker houses.<sup>121</sup> At the nursery office, Bauhan renovated the building exterior in the Colonial Revival style while much of the interior retained the original "Bavarian hunting lodge" character and detailing. Exterior renovations included the removal of the rustic stone porte-cochere and addition of a slate roof.<sup>122</sup> The renovated office building was painted yellow with white trim, matching the rest of the nursery buildings and nearby worker housing. With these improvements, the Kingston Site of Princeton Nurseries continued to function as a successful large commercial nursery operation while maintaining a strong, identifiable landscape character.

At the end of the 1960s, a number of additional buildings were constructed. The extensive greenhouse and poly house collection was still expanding to its height of development during this period. In October 1969, a series of wood-frame poly houses were constructed in the open fields directly south of the propagation house and main greenhouse cluster; these were built for container production. A wide road lined with Princeton Sentry ginkgo trees separated the new poly house area from the propagation house and original greenhouses. (See Figure II.41.) That same year, a building known as the 'tree building' was constructed directly south of the packing building. This large-scale building provided additional storage space within the operation core. Period photographs indicate that the building was constructed in two phases with the eastern portion constructed first and the wider, western portion constructed at some point before 1975. (See Figure II.42.) With the lath building (1961) and tree building in place, functionality of the operation core was enhanced. The core also become a more linear space within the broader nursery landscape; each of the buildings was laid out following a roughly east-west alignment with a wide asphalt drive and access area between the northern and southern buildings. (See Figure II.43.)

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It was during this period that the commercial success of Princeton Nurseries peaked and the Kingston Site of Princeton Nurseries reached its height of development. The nursery landscape encompassed approximately 1,500 acres, the majority of which were in horticultural production, but also included the administrative, shipping, and operation core. The Kingston Site also included three non-contiguous parcels. (See Figures II.44 and II.45.) In 1972, William III became president of Princeton Nurseries, in partnership with John.<sup>123</sup> By 1978, the entire Princeton Nurseries operation encompassed about 4,000 acres, including lands at the Kingston Site and in Allentown. The workforce totaled about 300 employees, about half of whom were Puerto Rican contract workers hired directly by Princeton Nurseries.<sup>124</sup> Throughout this period, brothers William Flemer III and John Flemer, who died in 1982, made many notable innovations in both plant propagation and business administration, respectively.

#### E. LANDSCAPE CHARACTER & PERIOD PLAN, CIRCA 1975

Between the initial land purchase in 1913 and the death of John W. Flemer and sale of a portion of nursery lands in the 1980s, the Princeton Nurseries landscape was established and improved through the efforts of the Flemer family, notably William Flemer Jr., William Flemer III, and John W. Flemer. By the 1980s, the Kingston Site had reached the height of its development as envisioned by multiple generations of the Flemer family. The following narrative discusses the circa 1975 landscape character of Princeton Nurseries, as illustrated on accompanying plans. The discussion is organized by character-defining features. Character-defining features are identified and described as a series of interrelated elements that together define the overall landscape character of Princeton Nurseries during this period, circa 1975. As outlined in Chapter I, these features include:

- *Spatial Organization, Land Patterns & Land Use*
- *Visual Relationships*
- *Topography & Natural Systems*
- *Vegetation*
- *Circulation*
- *Hydrology & Water Features*
- *Structures, Site Furnishings & Objects*

A series of 11-inch by 17-inch fold-out aerials and plans included at the end of the chapter support the narrative. These include:

- *Plan 1, Circa 1930 Land Use Plan*
- *Plan 2, 1975 Aerial Photograph*
- *Plan 3, Circa 1975 Core Area Land Use Plan*
- *Plan 4, Circa 1975 Land Use Plan*
- *Plan 5, Circa 1975 Period Core Area Plan*

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### E1. Spatial Organization, Land Patterns & Land Use

Land use at Princeton Nurseries was strongly influenced the spatial organization and land patterns. The layout of the landscape and individual features was determined by the use of the land as an active commercial nursery. Linearity is a function of commercial seedbeds, blocks of vegetation, planted rows, utilitarian circulation routes, and other features shaped by the landscape's role as a nursery, seen on aerial photographs from various periods. As illustrated on the accompanying graphic materials, the Princeton Nurseries Kingston Site circa 1975 is organized by the extensive plant production fields and clusters of buildings and structures.

Circa 1975, the field patterns in the core reflect a transition between the linearity that characterized the landscape both under Flemer Jr. and in recent years and the arrangement more closely following contours that occurred between these periods. Flemer Jr.'s use of rectilinear plots was followed by Flemer III's implementation of planting in rows following contours. In the area south of the road lined with ginkgo trees, the pattern reverted back to a rectilinear layout to accommodate the poly houses; this area was well suited for the "can houses" because of the more gravelly soil, which also made the area less desirable for general horticulture. The poly houses were unheated and the poly sheeting was removed in the summer.

The layout of landscape features and their relationships to each other define a repeated pattern of linearity through the nursery grounds. Plants are laid out in relatively straight alignments, sometimes curving to follow the topography of the landscape. Straight circulation routes provide access to the production fields and also reinforce the linear organization. Administrative, support, and residential buildings are organized in clusters. Primarily they are located near the northern nursery edge, along Mapleton Road with groups of worker housing located more along the periphery of the grounds. While the buildings are largely laid out in clusters, the footprint of individual buildings and the layout of the buildings in relation to each other further emphasize the linearity of the landscape.

### E2. Visual Relationships

Visual relationships are closely related to spatial organization. The layout of nursery buildings and structures and the overall landscape circa 1975 determine viewsheds both within the grounds and from adjacent areas. Because of the strong linear spatial patterns, visual relationships within the landscape are also linear; prominent views are gained from along the nursery roads and access ways. Rows of nursery stock frame views along the nursery roads. (See Figure II.46.) In areas with lower-growing plant stock, views extend across the production field. Impressive windrows frame the landscape and restrict viewsheds. (See Figure II.47.) Overall, because of the plant materials and windrows, visual relationships at Princeton Nurseries are essentially contained within the grounds with limited views of neighboring properties.

### E3. Topography & Natural Systems

The topography and natural systems of Princeton Nurseries are important character-defining features of the landscape. The relatively level ground plane with subtle changes in grade made the

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expansive lands well-suited to establish a nursery. Natural systems, such as the condition of the sassafras loam soils also made the lands ideal for plant production. Historical documentation notes that the climate of central New Jersey was conducive to growing a wide range of plant materials. The topography and natural systems that contributed to William Flemer Sr. establishing the nursery grounds in Kingston continue to be integral to the nursery operations and landscape in circa 1975.

#### E4. Vegetation

As shown on accompanying plans, vegetation is the most prominent feature in the circa 1975 Princeton Nurseries landscape. Site vegetation is characterized by nursery stock, trees and shrubs planted to augment the landscape, and wooded areas that existed prior to the creation of the nursery landscape. Vegetation plays an important role in the overall character of the Kingston Site landscape. It covers much of the 1,500-acre ground plane, defining linear patterns of space, framing views, and lining circulation features.

The most prolific vegetation at Princeton Nurseries is the nursery stock. Planted in generally straight rows within nursery blocks, the stock extends in varying directions across the majority of the expansive nursery grounds. Some plantings are laid out in gently curving rows. This occurs generally where subtle changes in topography require an altered planting pattern. In many areas mown turf is located between the planting fields with a combination of compacted dirt and turf extending linearly between the stock rows. (See Figure II.48.)

The staff at Princeton Nurseries also planted vegetation to augment the nursery landscape character and display the uses and character of their high quality stock. The entry area has a number of ornamental trees and shrubs planted in open lawn around the office. Many of the plants were not only examples of specific varieties grown at Princeton Nurseries, but were also varieties developed by the Flemer family. For example, a Rosy Cloud cherry tree, developed by William Flemer III, grows in a mown turf area east of the office. (See Figure II.49.) Other varieties developed by William III are also found in the circa 1975 landscape. A row of stately Sentry gingko trees grows on open turf alongside the greenhouse and poly house cluster south of the propagation house. A narrow access road separates the greenhouses from the planting strip. To the other side of the tree row is a wider, compacted earth road set at a slightly lower elevation than the trees and greenhouses. (See Figure II.50.) Others areas likely planted with Princeton Nurseries tree and shrub varieties include the residences rented to employees and around support buildings. The use of these plant materials not only enhanced the character of the largely agricultural landscape, it also functioned as displays for visitors, illustrating the high quality of the Princeton Nurseries products and the many uses for the plants.

Wooded areas that most likely predate the nursery era remain in the circa 1975 landscape. Woodlands are located primarily along some type of water feature. A densely wooded area grows to the north of the operation core along Heathcote Brook. Here the vegetation creates a buffer between the Princeton Nurseries lands and the development to the north. Another woodland extends from Railroad Avenue southeast at the eastern edge of the nursery core. A secondary brook runs beneath the shaded canopy. It may have also been within this wooded area that the FLEMERS grew some nursery stock, such as the rhododendron shrubs, as documented in the 1931 Princeton Products guide. (See Figure II.26.)



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Vegetation at Princeton Nurseries is an important landscape feature. The combination of rows of nursery stock, ornamental plantings, and woodlands created an enhanced agricultural character for the impressive grounds. While the nursery operations focus on the production of nursery stock, other plants were added to augment the landscape and to display the available plant materials. Woodlands that existed prior to the creation of Princeton Nurseries were partially retained, adding variation to the otherwise agricultural landscape. The variety of plant material found at Princeton Nurseries strongly contributes to the overall character of the expansive landscape.

#### E5. Circulation

Circulation at Princeton Nurseries circa 1975 includes a network of nursery roads and wide areas around buildings that provide access to the plant stock and support facilities. Roads vary from hard surfaces like asphalt to unpaved surfaces like compacted dirt, gravel, and mown turf. In general the nursery roads are laid out in straight alignments, reinforcing the pattern of linearity repeated throughout the nursery landscape.

At the nursery entry from Mapleton Road visitors enter the grounds along an asphalt drive that extends east toward the operation core. To the north, the drive loops around two turf areas. A small parking area is located at the northern edge of the asphalt pavement. Simple stone curbing is laid three rows deep along the edges of the two turf areas and the parking area, providing some separation between the planted areas and vehicles. (See Figures II.51, II.52, and II.53.) The asphalt pavement continues east, creating a wide paved area in the operation core between the packing shed, tree storage building, and lath building. This paved area provides a through-route from the office east to Railroad Avenue and Ridge Road. It also provides space for nursery vehicles to access the buildings and bring nursery stock from the production fields to the support buildings. (See Figure II.54.)

The paved area that runs through the center of the operation core also provides connections to other circulation routes. At the east end of the tree storage building, a narrow drive extends south with an entrance into the propagation house at its western façade. A compacted dirt road continues east from the eastern façade of the propagation house. It intersects with a north-south dirt road that extends between greenhouses. To the north, this road connects with a narrow, dirt access route lined with trees. To the south, this drive connects with a wider compacted dirt road with gravel laid over the surface. This road runs perpendicularly alongside the main greenhouse cluster. Directly to the south is the turf planting strip with Princeton Sentry gingko trees. (See Figure II.50.)

Additional gravel roads provide access to other building clusters and production fields. Two nursery roads are laid out perpendicularly to the greenhouse and poly house cluster south of the operation core. (See Figure II.55.) To the west of the poly houses, a gravel road provides a direct connection between the administrative and entry area south to a cluster of support buildings including a carpenter shed, a number of sheds and storage buildings, a residential house, a worker dormitory, and a swimming pool. Compacted dirt roads provide access to these structures. (See Figures II.56, II.57 and II.58.) A gravel road extends east from this building cluster. At its eastern terminus, the road connects with another gravel road. This one is oriented roughly northwest-southeast. This road has several curves along its alignment, making it one of the only non-linear drives in the nursery

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grounds. The curvilinear nursery road provides access to each of the primary building and support clusters in the nursery core and creates a physical separation between the production and operation areas and the woodland and secondary creek. Additional compacted dirt and gravel roads are found throughout the nursery lands, providing access to the production fields and worker housing.

Circulation is an important feature in the Princeton Nurseries landscape. Roads, access ways, and loading and parking areas add to the functionality of the nursery lands and contribute to the overall character. The majority of the circulation features are unpaved, adding to the agricultural quality of the landscape. The circulation routes also form a network of linear features throughout the landscape, contributing to the repeated pattern of linearity created by the spatial relationships between buildings, vegetation, and circulation.

#### E6. Hydrology & Water Features

The Kingston Site of Princeton Nurseries has several water features, including both natural landscape features and constructed features that aid in nursery production. Prominent natural water features are Heathcote Brook, an unnamed secondary brook, Lake Carnegie, and the Delaware and Raritan Canal. Constructed water features include the extensive irrigation system, water tower, and swimming pool. Together, these features enhance the nursery grounds and contribute to the landscape character.

Natural water features are found both within the nursery landscape and in the outlying context. Two brooks extend through the nursery landscape. Near the northern edge of the nursery grounds, Heathcote Brook runs east-west, connecting with the Delaware & Raritan Canal at the west. To the south, an unnamed brook winds through the wooded area. Culverts allow the brook to flow beneath the nursery drives. East of the greenhouses and poly houses, a concrete bridge was constructed along a dirt drive with the brook culvert beneath. The brook continues northwest. Another stone culvert is located north at Railroad Avenue. The brook continues north, passing, through a stone culvert, under the former railroad bed. North of the former railroad bed and east of the wholesale distribution yard, the brook widens, forming a pond surrounded by prolific volunteer growth. Near the center of the wholesale distribution yard, the brook widens, forming a pond surrounded by prolific volunteer growth. North of the pond, the brook travels northwest before connecting with Heathcote Brook. The land to either side of the pond is within the brook floodplain, making the ground relatively wet. This more sandy area was used by Princeton Nurseries to heal plants into the soil before it became the first wholesale distribution yard in the country.<sup>125</sup>

The Delaware and Raritan Canal and Lake Carnegie are also important water features. Although they are located outside the nursery grounds, these water features were important factors in William Flemer Sr.'s decision to locate Princeton Nurseries in the available farmlands in Kingston because they provided convenient transportation and shipping routes. By the 1980s, when shipping via the waterways was no longer a widely used mode of transportation, the physical and visual relationship of the canal and lake along the eastern edge of the nursery lands continued to contribute to the landscape character.

Constructed water features include irrigation elements, a water tower, and swimming pool. During the first few decades of operation at the Kingston Site, an irrigation system was constructed to

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support the extensive nursery production. The most visually prominent element of the irrigation system was the 75,000-gallon water tower. The 125-foot tower was constructed near the operation core and extended above site vegetation. (See Figure II.59.) Other important features of the irrigation system include hydrants, faucets, and pipes. Piping is located both above and below ground. Above-ground piping is elevated off the ground plane in many of the production fields, and the height of the piping varies depending on the plant material for which it provides water. (See Figure II.60.)

While most of the constructed water features focus on improving functionality and plant production, at least one water feature aimed to improve worker relations. An in-ground swimming pool was constructed at the south edge of the nursery core, adjacent to the worker dormitory. For the Puerto Rican workers who lived within the nursery grounds, the swimming pool provided a convenient outlet for recreation and relaxation. By providing amenities such as a swimming pool, the Flemers were able to foster strong relationships with the workers, fostering a sense of pride with the workers that resulted in high quality production. (See Figure II.61.)

The water features at Princeton Nurseries are important elements in the nursery landscape. Natural water features like brooks, Lake Carnegie, and the canal add to the enhanced rural quality of the landscape. Most constructed water features enhance the functionality of the nursery grounds, providing water for the 1,500 acres of plant stock. A large swimming pool constructed alongside the worker dormitory helps cultivate valuable relationships with the contracted workers. The character of the individual water features and site hydrology contribute to the overall landscape character of the Kingston Site.

#### E7. Structures, Site Furnishings & Objects

The Princeton Nurseries landscape includes numerous structures, site furnishings, and objects. Structures include administrative and support buildings green houses and poly houses, and owner and employee housing, as well as smaller structures, like and fences. Site furnishings and objects include primarily signs, small lath structures, and small wooden stakes used to label plant rows in the production fields. The structures, site furnishings, and objects at the Kingston Site are important landscape features because they support the nursery operations and contribute to the unique landscape character and sense of place.

Buildings and structures are arranged primarily in clusters within the nursery landscape. The majority of the structures are located within the nursery core, near the northern edge of the site. Here the office and blacksmith shop are visible from Mapleton Road. The operation core is directly east of the office. This cluster of buildings includes the packing shed, tree storage building, garage, lath building, propagation house, and greenhouses and poly houses. To the south is another prominent cluster of buildings. This grouping includes the worker dormitory and pool as well as a number of sheds and a residence used to house workers. Additional housing and other structures are located in small groupings scattered throughout the nursery lands. The original farmhouses purchased by William Flemer Sr. remain in the landscape. Most of the buildings, including houses, are painted yellow with white trim, creating visual cohesiveness in the landscape. In many areas, there continues to be little separation between the nursery stock and buildings with rows of plants extending toward worker housing and support structures. (See Figures II.62 and II.63.)

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The 18<sup>th</sup> century Mathias Van Dyke House, the house of William Flemer Jr. and later William Flemer III, is important part of the history of Princeton Nurseries (as well as of the period prior to the Nurseries) and the context of the State Register Princeton Nurseries District. The outbuildings and gardens, which were developed by William Flemer Jr. and William Flemer III, are also an important part of the cultural landscape. The adjacent Van Dyke/Hoffman house is also a historic house although not on its original site; it also has no protection.

One property, which is privately owned but has historic preservation easements held by NJDEP, includes a house (the Shennard House) and a group of three connected buildings: the former stable, a large barn, and a large workshop. These connected buildings are all that remain of the former complex that also included the dormitory and other storage buildings and sheds, all of which are an important component of the cultural landscape.

Numerous smaller-scale structures and site furnishings can also be found at Princeton Nurseries. Several different types of fences are used in the nursery landscape. Simple post and rail fencing is located along Mapleton Road. (See Figure II.64.) Chain-link fencing forms an enclosure around the swimming pool. (See Figure II.61.) Signage is also used at Princeton Nurseries. Photographs dating from the early 20<sup>th</sup> century reveal large signs mounted on the sides of buildings. While these types of signs are not visible in circa 1975 documentation, it is likely that some type of sign was located at the primary entry from Mapleton Road. Low lath and burlap structures shade nursery stock. (See Figures II.65 and II.66.) Small wooden stakes can also be found throughout the grounds. These white-painted stakes are placed in the ground to identify the plant varieties being grown. (See Figure II.47.) Tools and other mechanical devices including a tree digger are also found in the landscape. (See Figures II.67 and II.68.) These small-scale features are important to the daily operations of the nursery landscape. They also contribute to the simplistic design style implemented throughout the site.

Aside from vegetation, structures, site furnishings, and objects comprise some of the more visually prominent landscape features. Because of their visual accessibility, they play a strong role in defining the overall character of the landscape. The use of a unified color scheme with the majority of the nursery buildings helps define a character that is easily recognizable. Structures and buildings are arranged in distinct clusters while small-scale features are dispersed throughout the landscape. Collectively, the nursery support buildings, houses, site furnishings, and objects are valuable features important not only to support the nursery operations, but also to define a unique landscape character.

## F. LANDSCAPE HISTORY CONCLUSION

The efforts of three generations of the Flemer family shaped Princeton Nurseries as both a business entity and tangible landscape. Founded by William Flemer Sr. as F & F Nurseries, William Sr. accumulated an impressive expanse of farmlands in Kingston during the early years of the first two decades of the 20<sup>th</sup> century. William Flemer Jr. soon took over operations at the Kingston Site. Working independently, Carl at the Springfield Site and William Jr. at the Kingston Site, the two Flemer Brothers established F & F Nurseries as a thriving nursery operation during a time when

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many nurseries struggled. In 1930 the ownership of F & F was formally divided; Carl continued on the Springfield Site under the F & F name and William Jr. continued in Kingston under the name of Princeton Nurseries. William Jr. defined Princeton Nurseries as a supplier of high quality nursery stock, priding the business on their commitment to excellence. He also set a precedent for his sons to later follow of exploring new and innovative methods of both plant production and marketing. It was during his tenure that the famed Princeton elm tree was developed. William Jr. formed a strong base for Princeton Nurseries, establishing the business as a forerunner in the emerging trade.

While William Flemer Jr. established a foundation for the business, it was under the direction of William Flemer III and John W. Flemer that Princeton Nurseries reached its height of success. William III focused on plant production innovations and the introduction of new varieties while John made important strides in business administration. Through John's efforts, the Flemers were able to forge strong bonds with their employees, particularly with the Puerto Rican workers originally contracted through the Glassboro Service Association. By providing the workers with a positive working and living environment, John avoided unionization and fostered a reciprocal commitment between the Flemers and their employees, which resulted in the production of high quality plants. William III used his background in botany to develop dozens of new cultivars. Both John Flemer and William Flemer III were involved in nursery organizations and wrote about their important research in the areas of management and plant propagation, respectively. Together John and William III took the nursery operation founded and nurtured by their father and grandfather and transformed it into the largest commercial nursery operation in the country.

By the 1980s, the Princeton Nurseries landscape had reached its height of development. Before the creation of the nursery, the lands were primarily farmlands, with some fields likely in agricultural production. The landscape was modestly enhanced as needed to facilitate nursery operations. Simple features, such as support structures and the linear network of roads, were added. Site vegetation was the prominent landscape feature. In addition to the impressive quantity of high-quality nursery stock, additional plants augmented the site and displayed how the Flemer-developed varieties could be used in the landscape. A simplistic design style was used when new buildings and landscape features were added, focusing on function rather than form. The Flemers purchased additional farmlands and houses as they became available, allowing them to retain the existing rural character of the site.

Princeton Nurseries is an important historic resource in Kingston. It is a unique cultural landscape and an integral component of the broader history of the development of the commercial nursery industry and the physical community in which it is located. The Kingston Site of Princeton Nurseries is a valuable landscape that reveals details of the innovations made by the Flemer family and their contribution to the expanding nursery trade. Following the early to mid-1980s historic period and the death of John W. Flemer, business declined, affecting the character of the expansive Kingston Site of Princeton Nurseries.



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CHAPTER II ENDNOTES

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- <sup>2</sup> Lindenkohl-Flemer History, privately published, 1972, p26-28.
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- <sup>7</sup> William Flemer IV, Personal Notes.
- <sup>8</sup> William Flemer, Jr., "Flemer Nurtured Nurseries," *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 18-19.
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- <sup>14</sup> "Obituary for William Flemer III," as provided by Robert von Zumbusch, April 2007.
- <sup>15</sup> "Obituary for William Flemer III," as provided by Robert von Zumbusch, April 2007.
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- <sup>22</sup> Russell Morse Bettes, Chairman of the Special Committee from 1970 through 1972, "History of the New Jersey Association of Nurserymen: From its beginning in 1915 through the first 50 Years – to 1965," 1972, p. 1-5.
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- <sup>29</sup> Russell Morse Bettes, Chairman of the Special Committee from 1970 through 1972, "History of the New Jersey Association of Nurserymen: From its beginning in 1915 through the first 50 Years – to 1965," 1972, p. 88.
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- <sup>31</sup> William Flemer, Jr., William Flemer, Jr., "Flemer Nurtured Nurseries," *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 1.
- <sup>32</sup> William Flemer Jr. to John Watson, Draft Letter, October 1915, Private Collection of William Flemer IV.
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- <sup>34</sup> William Flemer Jr. to John Watson, Draft Letter, October 1915, Private Collection of William Flemer IV.
- <sup>35</sup> William Flemer IV, Personal Notes; William Flemer, Jr., "Flemer Nurtured Nurseries," *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 1, 16.
- <sup>36</sup> William Flemer Jr. to John Watson, Draft Letter, October 1915, Private Collection of William Flemer IV.

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- <sup>39</sup> William Flemer, Jr., “Flemer Nurtured Nurseries,” *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 17.
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- <sup>43</sup> Princeton Nurseries, “The History of Princeton Nurseries,” [www.princetonnurseries.com](http://www.princetonnurseries.com).
- <sup>44</sup> William Flemer Jr. to John Watson, 9 October 1915, Private Collection of William Flemer IV.
- <sup>45</sup> William Flemer, Jr. to John Watson, 1 January 1915, Private Collection of William Flemer IV.
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- <sup>47</sup> William Flemer IV, Personal Notes; William Flemer, Jr., “Flemer Nurtured Nurseries,” *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 1, 16.
- <sup>48</sup> Frank Waterhouse to William Flemer, Jr., 13 April 1915, Private Collection of William Flemer IV.
- <sup>49</sup> William Flemer IV, Personal Notes; William Flemer, Jr., “Flemer Nurtured Nurseries,” *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 18.
- <sup>50</sup> Frank Waterhouse to William Flemer, Jr., 25 January 1915, Private Collection of William Flemer IV.
- <sup>51</sup> William Flemer IV, Personal Notes; William Flemer, Jr., “Flemer Nurtured Nurseries,” *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 1, 16.
- <sup>52</sup> Frank Waterhouse to William Flemer, Jr., 31 January 1915, Private Collection of William Flemer IV.
- <sup>53</sup> William Flemer Jr. to John Watson, Draft Letter, October 1915, Private Collection of William Flemer IV.
- <sup>54</sup> William Flemer, Jr. to Frank Waterhouse, 5 February 1915, Private Collection of William Flemer IV.
- <sup>55</sup> Frank Waterhouse to William Flemer, Jr., 28 March 1915, Private Collection of William Flemer IV; William Flemer, Jr. to Frank Waterhouse, 26 February 1915, Private Collection of William Flemer IV; William Flemer, Jr. to Frank Waterhouse, 25 March 1915, Private Collection of William Flemer IV.
- <sup>56</sup> Frank Waterhouse to William Flemer, Jr., 31 March 1915, Private Collection of William Flemer IV.
- <sup>57</sup> William Flemer, Jr. to Frank Waterhouse, 3 April 1915, Private Collection of William Flemer IV; It should be noted that while documentation from before 1920 refers to lettered sections of the nursery grounds, available mapping and images from the 1920s on note a numbering system. This makes it difficult to track which areas of the nursery were first planted.
- <sup>58</sup> William Flemer, Jr. to Frank Waterhouse, 16 April 1915, Private Collection of William Flemer IV.
- <sup>59</sup> Frank Waterhouse to William Flemer, Jr., 31 March 1915, Private Collection of William Flemer IV.
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- <sup>62</sup> William Flemer Jr. to John Watson, 19 January 1916, Private Collection of William Flemer IV.
- <sup>63</sup> William Flemer Jr. to John Watson, 19 January 1916, Private Collection of William Flemer IV.
- <sup>64</sup> F & F Nurseries to Prospective Customers, February 1915, Private Collection of William Flemer IV.
- <sup>65</sup> Russell Morse Bettes, Chairman of the Special Committee from 1970 through 1972, “History of the New Jersey Association of Nurserymen: From its beginning in 1915 through the first 50 Years – to 1965,” 1972, p. 10.
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- <sup>73</sup> William Flemer Jr. to John Watson, Draft Letter, October 1915, Private Collection of William Flemer IV.
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- <sup>75</sup> William Flemer IV, Personal Notes.
- <sup>76</sup> William Flemer, Jr., "Flemer Nurtured Nurseries," *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 18.
- <sup>77</sup> Kingston Greenways, "Talk by William Flemer IV," <http://www.kingstongreenways.org/pnl/flemeriv.html>.
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- <sup>79</sup> William Flemer, Jr., "Flemer Nurtured Nurseries," *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 19.
- <sup>80</sup> William Flemer IV, as cited in Watson & Henry Associates, *Princeton Nurseries, Propagation House and Attached Greenhouses, Draft Report*, April 2009: 2.
- <sup>81</sup> William Flemer, Jr., "Flemer Nurtured Nurseries," *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 19.
- <sup>82</sup> Russell Morse Bettes, Chairman of the Special Committee from 1970 through 1972, "History of the New Jersey Association of Nurserymen: From its beginning in 1915 through the first 50 Years – to 1965," 1972, p. 1-3.
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- <sup>85</sup> William Flemer IV, Personal Notes; Russell Morse Bettes, Chairman of the Special Committee from 1970 through 1972, "History of the New Jersey Association of Nurserymen: From its beginning in 1915 through the first 50 Years – to 1965," 1972, p. 99. It should be noted that while this listing of US Plant Patents held by New Jersey Nurserymen does not specify that the Princeton elm was not patented, the fact that it is not included on the list indicates that no patent was put into effect on the tree.
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- <sup>88</sup> Princeton Nurseries, *Princeton Products*, Davenport, Iowa: The L. W. Ramsey Co., 1931: 1.
- <sup>89</sup> Princeton Nurseries, *Princeton Products*, Davenport, Iowa: The L. W. Ramsey Co., 1931.
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- <sup>93</sup> Russell Morse Bettes, Chairman of the Special Committee from 1970 through 1972, "History of the New Jersey Association of Nurserymen: From its beginning in 1915 through the first 50 Years – to 1965," 1972, p. 25.
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- <sup>96</sup> William Flemer IV, Personal Communication to Author, 1 April 2009; William Flemer, Jr., "Flemer Nurtured Nurseries," *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 18.
- <sup>97</sup> Digital image files PRN-WF4-D22-JHM-IrrigationPond-nd.jpg and PRN-WF4-D22-JHM-IrrigationPond-Backnd.jpg. While these images are undated, they were likely taken by J. Horace McFarland directly rather than by a staff member at his printing company. McFarland died in 1948, indicating these photos were taken before that date.
- <sup>98</sup> William Flemer, Jr., "Flemer Nurtured Nurseries," *Princeton Recollector*, Vol. III, No. 9 (Spring 1978): 18-19.
- <sup>99</sup> Russell Morse Bettes, Chairman of the Special Committee from 1970 through 1972, "History of the New Jersey Association of Nurserymen: From its beginning in 1915 through the first 50 Years – to 1965," 1972, p. 20-21.
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- <sup>102</sup> Kingston Greenways, "Talk By William Flemer IV," <http://www.kingstongreenways.org/pnl/flemeriv.html>.
- <sup>103</sup> J. J. Stemmler to William Flemer, Jr., 19 April 1945, Private Collection of William Flemer IV.
- <sup>104</sup> Ilene Dube, "The Good Earth: Urban Beautification Grew from the Soil of Princeton Nurseries," *Princeton Packet Online*, 5 October 2001, available online at Millstone Bypass Alert Coalition, "MBA Articles About the Environment, 2001," <http://www.princetonol.com/groups/millstone/environment2001.html#anchor2587328>.

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- <sup>112</sup> "Princeton Nurseries Wholesale Catalog," Princeton, NJ: Princeton Nurseries (Fall 2005 – Spring 2006): 89.
- <sup>113</sup> "Princeton Nurseries Wholesale Catalog," Princeton, NJ: Princeton Nurseries (Fall 2005 – Spring 2006): 89.
- <sup>114</sup> "Princeton Nurseries Wholesale Catalog," Princeton, NJ: Princeton Nurseries (Fall 2005 – Spring 2006): 89.
- <sup>115</sup> "Princeton Nurseries Wholesale Catalog," Princeton, NJ: Princeton Nurseries (Fall 2005 – Spring 2006): 89.
- <sup>116</sup> "Princeton Nurseries Wholesale Catalog," Princeton, NJ: Princeton Nurseries (Fall 2005 – Spring 2006): 89.
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